

HAZARD ALERT



THE CENTER FOR CONSTRUCTION
RESEARCH AND TRAINING

CARBON MONOXIDE POISONING

Gas-powered Generators, Tools and Other Equipment



Are you in danger?

If you are using...

- ▶ A gas-powered generator indoors, in a semi-enclosed area, in a sheltered outdoor location, or outside near an air intake,
- ▶ Or any gas-powered tool, such as walk-behind or hand-held concrete cutting saws, power trowels, water pumps, or pressure washers, indoors or in a sheltered outdoor location ...

...then the answer is **YES**.

You could die from carbon monoxide (CO) poisoning.

Carbon monoxide (CO) is a silent killer.

It is odorless and colorless.

You can only detect it with a carbon monoxide monitor.

Know the warning signs for CO poisoning:

- ▶ **Headache**
- ▶ **Confusion**
- ▶ **Dizziness**
- ▶ **Loss of consciousness**
- ▶ **Nausea**

If you or a co-worker experience ANY of these warning signs, turn off engines immediately, seek fresh air and call 911.

CO can reach deadly concentrations **in less than 1 minute**, depending on the type of engine, and CO can linger for hours.



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One generator can produce more CO than 100 idling cars.

Find out more about construction hazards.

To receive copies of this Hazard Alert and cards on other topics:

**call 301-578-8500 or
email CPWR-r2p@cpwr.com**



8484 Georgia Avenue
Suite 1000
Silver Spring, MD 20910
301-578-8500
www.cpwr.com

Know the basics...

1 Use generators outside

NEVER run gas-powered generators or compressors inside a building or in a semi-enclosed outdoor space. Locate them as far as practical from any occupied building.*

*Generators should be outdoors, preferably 25 feet downwind from an occupied building as recommended by the National Institute of Standards and Technology.



PHOTO ELCOSSH.ORG / CPWR N LIPPY

2 Use gas-powered tools outside

DON'T use gas-powered tools indoors. These tools include **gas-powered** concrete saws, pressure washers, water pumps, and power trowels.

*Carbon monoxide concentrations reached the NIOSH ceiling limit of 200 parts per million within 3 minutes using a 5.5 HP pressure washer in a double-car garage with both doors and a window open. .



PHOTO COURTESY L. MISCHL AND WIKIMEDIA

3 Know other CO hazards and controls

- ▶ Fuel-powered forklifts can cause CO poisoning indoors. Avoid letting engines idle. Consider asking for CO badges that alarm when levels get too high.
- ▶ Fuel-fired heaters (salamander or torpedo heaters) can produce CO. Make sure the unit is designed for indoor use and keep a CO monitor nearby.
- ▶ If you are MIG welding using carbon dioxide (CO₂) shielding gas, make sure you have local exhaust ventilation (LEV) with hood positioned correctly. CO₂ can be changed into CO in the hot arc of welding.



PHOTO COURTESY HONEYWELL ANALYTICS

If you find a co-worker down ...

- ▶ **Shut off the engine, if you can**
- ▶ **Move the victim immediately to fresh air in an open area**
- ▶ **Call 911**
- ▶ **Administer first aid if possible, such as providing oxygen and CPR**

**If you think you
are in danger:
Contact your supervisor.
Contact your union.**

**Call OSHA
1-800-321-OSHA**

Workers have died trying to save others.

Any indoor use of gas-powered generators or tools should be approved by a competent person who must evaluate factors such as size of the space and whether ventilation can effectively reduce CO levels. The competent person should conduct air monitoring during the work to be sure the ventilation is doing the job. This type of use should be rare and occur only on large projects, like indoor stadium construction, **NEVER IN RESIDENTIAL CONSTRUCTION.**